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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,177

05/29/2007

Mark Bischoff

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PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.

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EXAMINER

LIPITZ, JEFFREY BRIAN

ART UNIT

PAPER NUMBER

4128

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,177	<b>Applicant(s)</b> BISCHOFF ET AL.	
	<b>Examiner</b> JEFFREY LIPITZ	<b>Art Unit</b> 4128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/29/07; 6/16/06</u>                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 12 is objected to because of the following informalities: The word “variable” is unnecessary and confusing. It is understood that the deflecting device has more than one controlled configuration. The mere fact that there is a control device used to control the deflecting device (claims 16 and 17) indicates that there is more than one beam deflection possibility. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 18 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Is the speed of deflection the same as the deflection frequency? If it is, and the selection frequency is the pulse frequency, than an increase in pulse frequency would further increase the deflection frequency. The “selection frequency” is not defined in the specification. The relationship between frequency and deflection, as claimed, is also not supported in the specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 13, 18, 20 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claims 13 and 20, the phrase “non-sequential laser pulses” is unclear. What defines a sequential pulse? Does the pulse frequency have to be set before a change in the pulse picking device can be made? Does a sequential laser pulses indicate a sequence of pulses of one frequency?

6. Regarding claims 18 and 24, the term “frequency” could mean the pulse frequency or the frequency of deflection. The claims are indefinite since the scope of the claims could not be ascertained.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 12-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swinger et al. (US 6,325,792), hereinafter Swinger.

9. Regarding claims 12-15, Swinger teaches a source of pulsed laser radiation (100; Column 17, Lines 1-15), a deflecting device (128,130, and unlabeled deflecting mirrors; Column 17, Lines 30-40; Column 19, Lines 30-67; Column 20, Lines 1-20) for directing laser radiation into the material at different locations to generate optical breakthroughs, and a pulse picking device (112), and comprising a Pockels' cell with an

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adjacent polarizing filter. Although the reference does not specifically mention whether the pulse picking device (112) can change non-sequential pulses it does teach the precise control over *each* laser pulse (Column 17, Lines 40-49). If the pulse picking device controls every pulse, than it is able to control the first pulse in a sequence or a pulse thereafter.

10. Claims 19-21 are rejected as an obvious use of the modified Swinger et al. reference. The method as claimed are obvious steps during the normal use and operation of the modified Swinger reference since the apparatus includes all structural limitations as discussed supra. In other words, the method as claimed are not germane to the issue of patentability over a prior art device itself, because to be entitled to weight in method claims, the recited structural limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure. *Ex parte Pfeiffer*, 1962. C.C. 408 (1961).

11. Regarding claims 16, 17, 22 and 23, Swinger teaches a control device (114) that synchronously controls the pulse picking device (112) and the deflecting device (106,128,130 and unlabeled deflecting mirrors) to generate optical breakthroughs along a predetermined path (Column 17, 50-54; Column 19, Lines 44-64; Column 20, Lines 8-20; Figure 6).

12. Regarding claims 18 and 24 (*as best understood*), Swinger teaches control over the source of pulsed laser radiation (100), control over the pulse picking device (112) and monitoring of the beam intensity (Column 17, Lines 50-67, Column 18, Lines 1-9). *Every* pulse is precisely controlled by the pulse picking device (112) so that when the

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deflection speed approaches a high value, the pulse picking device (112) will alter the characteristics of the pulse (A discussion of the use of high frequencies is in Column 15, Lines 40-54, Figure 3; Column 17, Lines 30-67; Column 18, Lines 1-9). If the pulse picking device decreases the intensity of the laser pulses so that there are fewer optical breakthroughs, then there will be fewer pulses that arrive at the deflecting mirrors (Column 20, Lines 22-34), since the laser light incident on the deflecting mirrors must first pass through the pulse picking device. Although using this approach to regulate the deflection speed is not specifically taught, the synchronous control of the pulse picking device, the laser and the deflecting device (128,130, and unlabeled deflecting mirrors) by the control unit (114) makes it obvious to one of ordinary skill in the art at the time the invention was made to use such a feedback method. If the actual deflection speed were left unchecked, control over the positioning and intensity of each pulse would decrease, leading to the possibility of a mistake.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY LIPITZ whose telephone number is (571)270-5612. The examiner can normally be reached on Monday to Friday from 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoa Huynh can be reached on 571-272-4888. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFREY LIPITZ/  
Examiner, Art Unit 4128

/Khoa D. Huynh/  
Supervisory Patent Examiner, Art Unit 4128